

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
22 April 2004 (22.04.2004)

PCT

(10) International Publication Number
WO 2004/033582 A1

(51) International Patent Classification⁷: **C09K 5/04**

(21) International Application Number:
PCT/GB2003/004421

(22) International Filing Date: 13 October 2003 (13.10.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
0223724.6 11 October 2002 (11.10.2002) GB

(71) Applicant (for all designated States except US): **RHODIA ORGANIQUE FINE LIMITED** [GB/GB]; Oak House, Reeds Crescent, Watford, Hertfordshire WD1 1QH (GB).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **CHAMBERS, Owen, Ross** [GB/GB]; 9 Stanley Crescent, Filton, Bristol BS34 7NH (GB). **ROBERTS, Neil, Andre** [GB/GB]; 38 Partridge Road, Pucklechurch, Bristol BS16 9SP (GB).

(74) Agents: **BENSON, John, Everett et al.**; J.A. Kemp & Co., 14 South Square, Gray's Inn, London WC1R 5JJ (GB).

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GF, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

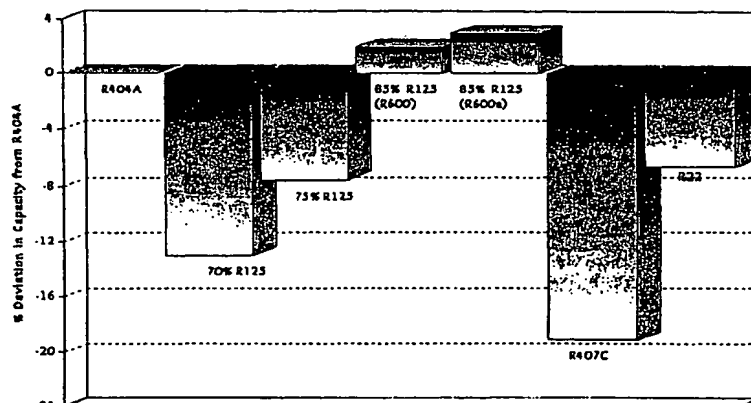
Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: REFRIGERANT COMPOSITIONS

Graph 1 PERCENTAGE DEVIATION IN CAPACITY FROM R404A FOR R22, R407C AND THE HIGH R125 CONTAINING BLENDS BASED ON A MEAN EVAPORATING TEMPERATURE OF -30°C



(57) Abstract: Refrigerant composition are disclosed which comprises: (a) pentafluoroethane, trifluoromethoxydifluoromethane or hexafluorocyclopropane, or a mixture of two or more thereof, in an amount of at least 75% based on the weight of the composition, (b) 1,1,1,2- or 1,1,2,2-tetrafluoroethane, trifluoromethoxypentafluoroethane, 1,1,1,2,3,3-heptafluoropropane or a mixture of two or more thereof, in an amount of from 10 to 20 % by weight based on the weight of the composition and (c) an ethylenically unsaturated or saturated hydrocarbon, optionally containing one or more oxygen atoms, with a boiling point from -50 °C to +35 °C, or a mixture thereof in an amount from 1 % to 4 % by weight based on the weight of the composition the weight ratio of component (a): component (b) being at least 4:1.

WO 2004/033582 A1

BEST AVAILABLE COPY